Chemical Analysis Report

BSSP-2021-09-01-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Reference Lake Sampling**
Request ID: **RQ-2021-07-19-32**
Customer: **BSSP**
Project ID: **LAKESREF**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant Date Certified: 24-SEP-2021 10:22

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals and Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

A - Value reported is the mean of two or more determinations.
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value and/or the analysis did not meet established quality control criteria.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Camel Lake **Collection Date/Time: 09/01/2021 12:35**

Field ID: Camel Lake Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2273161	EPA 300.0 Rev. 2.1	Chloride	2.3		mg Cl/L	P403499	
		Sulfate	1.3		mg SO4/L	P403500	
	SM 2120 B-2011	Color (true)	9.5		PCU	P403334	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P403437	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P403438	
2273162	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P403361	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P403411	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P403348	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P403425	
2273163	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P403336	
2273166	EPA 200.7 Rev. 4.4	Calcium	0.38		mg/L	P403326	
		Iron	30	U	ug/L	P403326	
		Magnesium	0.32		mg/L	P403326	
		Potassium	0.30	U	mg/L	P403326	
		Sodium	1.3	I	mg/L	P403326	
		Zinc	5.0	U	ug/L	P403326	
	EPA 200.8 Rev. 5.4	Arsenic	0.26		ug/L	P403326	
		Beryllium	0.010	U	ug/L	P403326	
		Cadmium	0.020	U	ug/L	P403326	
		Chromium	0.40	U	ug/L	P403326	
		Copper	0.40	U	ug/L	P403326	
		Lead	0.20	U	ug/L	P403326	
		Nickel	0.50	U	ug/L	P403326	
		Silver	0.010	U	ug/L	P403326	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403326

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403326

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403499

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403500

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403361

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403411

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403348

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403425

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403336

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2120 B-2011
Batch ID: P403334

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P403437

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 4500 F-C-2011
Batch ID: P403438

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403326

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	106		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	101		P	85 - 115
Sodium	99.4		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403326

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.0		P	85 - 115
Beryllium	100		P	85 - 115
Cadmium	96.0		P	85 - 115
Chromium	101		P	85 - 115
Copper	101		P	85 - 115
Lead	103		P	85 - 115
Nickel	99.9		P	85 - 115
Silver	110		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403499

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403500

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403361

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403425

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403336

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	101		P	90 - 110

Reference Method: SM 2120 B-2011
Batch ID: P403334

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P403437

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P403438

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	93 - 104

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273156	Calcium	104		P	80 - 120
2273156	Iron	111	107	P/P	80 - 120
2273156	Magnesium	112	108	P/P	80 - 120
2273156	Potassium	105	101	P/P	80 - 120
2273156	Sodium	107	105	P/P	80 - 120
2273156	Zinc	105	104	P/P	80 - 120
2273239	Calcium	107		P	80 - 120
2273239	Iron	109		P	80 - 120
2273239	Magnesium	109		P	80 - 120
2273239	Potassium	101		P	80 - 120
2273239	Sodium	103		P	80 - 120
2273239	Zinc	113		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273156	Arsenic	99.0	96.1	P/P	80 - 120
2273156	Beryllium	101	97.3	P/P	80 - 120
2273156	Cadmium	98.5	96.1	P/P	80 - 120
2273156	Chromium	104	99.8	P/P	80 - 120
2273156	Copper	100	95.6	P/P	80 - 120
2273156	Lead	104	101	P/P	80 - 120
2273156	Nickel	99.9	95.3	P/P	80 - 120
2273156	Silver	108	108	P/P	80 - 120
2273239	Arsenic	100		P	80 - 120
2273239	Beryllium	97.3		P	80 - 120
2273239	Cadmium	98.0		P	80 - 120
2273239	Chromium	102		P	80 - 120
2273239	Copper	97.3		P	80 - 120
2273239	Lead	105		P	80 - 120
2273239	Nickel	97.5		P	80 - 120
2273239	Silver	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273152	Chloride	99.6		P	90 - 110
2273276	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273152	Sulfate	100		P	90 - 110
2273276	Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273162	Ammonia-N	97.2	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273162	Kjeldahl Nitrogen	103	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273153	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273225	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273163	O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P403438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273302	Fluoride	97.6	100	P/P	92 - 107

Quality Assurance Report
Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273156	Calcium	3.89	Spike	P	0 - 20
2273156	Iron	3.32	Spike	P	0 - 20
2273156	Magnesium	3.21	Spike	P	0 - 20
2273156	Potassium	3.50	Spike	P	0 - 20
2273156	Sodium	1.29	Spike	P	0 - 20
2273156	Zinc	1.14	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273156	Arsenic	2.95	Spike	P	0 - 20
2273156	Beryllium	3.35	Spike	P	0 - 20
2273156	Cadmium	2.45	Spike	P	0 - 20
2273156	Chromium	4.05	Spike	P	0 - 20
2273156	Copper	4.65	Spike	P	0 - 20
2273156	Lead	3.08	Spike	P	0 - 20
2273156	Nickel	4.69	Spike	P	0 - 20
2273156	Silver	0.248	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273152	Chloride	0.969	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273162	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273162	Kjeldahl Nitrogen	1.90	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273153	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273225	Total-P	0.397	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273163	O-Phosphate-P	0.295	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P403334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273207	Color (true)	0.546	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P403437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273302	Total Alkalinity	1.28	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P403438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273302	Fluoride	1.90	Spike	P	0 - 2.1

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B-2011
Run ID: A107624
Included Lab Sample IDs: 2273161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A107625
Included Lab Sample IDs: 2273163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A107639
Included Lab Sample IDs: 2273162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A107641
Included Lab Sample IDs: 2273162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A107666
Included Lab Sample IDs: 2273166

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	97.6	95.1	P/P	90 - 110
Beryllium	95.6	94.0	P/P	90 - 110
Cadmium	96.4	95.6	P/P	90 - 110
Chromium	99.3	97.4	P/P	90 - 110
Copper	94.2	92.5	P/P	90 - 110
Lead	97.9	97.8	P/P	90 - 110
Nickel	95.5	92.2	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A107669
Included Lab Sample IDs: 2273161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	104	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A107669
Included Lab Sample IDs: 2273161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	102	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A107678
Included Lab Sample IDs: 2273162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A107686
Included Lab Sample IDs: 2273166

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	95.0	93.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A107687
Included Lab Sample IDs: 2273166

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	99.0	97.9	P/P	90 - 110
Sodium	101	99.2	P/P	90 - 110
Zinc	99.8	106	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A107690
Included Lab Sample IDs: 2273161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Sulfate	99.6	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A107694
Included Lab Sample IDs: 2273162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	102	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
EPA 200.7 Rev. 4.4	Calcium	102	104	107				3.89
	Iron	106	111	107	109			3.32
	Magnesium	107	112	108	109			3.21
	Potassium	101	105	101	101			3.50
	Sodium	99.4	107	105	103			1.29
	Zinc	100	105	104	113			1.14
EPA 200.8 Rev. 5.4	Arsenic	99.0	99.0	96.1	100			2.95
	Beryllium	100	101	97.3	97.3			3.35
	Cadmium	96.0	98.5	96.1	98.0			2.45
	Chromium	101	104	99.8	102			4.05
	Copper	101	100	95.6	97.3			4.65
	Lead	103	104	101	105			3.08
	Nickel	99.9	99.9	95.3	97.5			4.69
	Silver	110	108	108	104			0.248
EPA 300.0 Rev. 2.1	Chloride	100	99.6	99.5			0.969	
	Sulfate	100	100	99.9				
EPA 350.1 Rev. 2.0	Ammonia-N	99.4	97.2	97.2				0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	103	100				1.90
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	102				0.0
EPA 365.1 Rev. 2.0	Total-P	108	102	102				0.397
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	101	102				0.295
SM 2120 B-2011	Color (true)	99.8					0.546	
SM 2320 B-2011	Total Alkalinity	103					1.28	
SM 4500 F-C-2011	Fluoride	99.5	97.6	100				1.90

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2273166
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2273166
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2273161
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2273161
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2273162
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2273162
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2273162
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2273162
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2273163
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2273161
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2273161
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2273161

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	09/01/2021	09/02/2021 15:05	Elliott D. Healy	09/08/2021 14:48	Josef B Mick	2273166
EPA 200.8 Rev. 5.4	09/01/2021	09/02/2021 15:05	Elliott D. Healy	09/03/2021 17:58	McKinley C Carter	2273166
	09/01/2021	09/02/2021 15:05	Elliott D. Healy	09/08/2021 18:55	Alexander Thompson	2273166
EPA 300.0 Rev. 2.1	09/01/2021			09/08/2021 15:06	Roberta Tatti	2273161
EPA 350.1 Rev. 2.0	09/01/2021			09/03/2021 12:32	Ping Hua	2273162
EPA 351.2 Rev. 2.0	09/01/2021	09/08/2021 16:15	Benjamin T. Nordmann	09/09/2021 10:46	Alexandra J Mattheus	2273162
EPA 353.2 Rev. 2.0	09/01/2021			09/03/2021 09:14	Beverly Y. Sanders	2273162
EPA 365.1 Rev. 2.0	09/01/2021	09/07/2021 15:50	Simonne.V. Calhoun	09/08/2021 14:36	Lipi Saha	2273162
EPA 365.1 Rev. 2.0 dissolved	09/01/2021			09/02/2021 16:27	James L Waggerby	2273163
SM 2120 B-2011	09/01/2021			09/02/2021 15:04	Sarah A Nixon	2273161
SM 2320 B-2011	09/01/2021			09/07/2021 18:37	Sarah A Nixon	2273161
SM 4500 F-C-2011	09/01/2021			09/07/2021 18:37	Sarah A Nixon	2273161